

Planning Resource for Grade $\frac{1}{2}$

Continuum of Mathematics Expectations

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NUMBER SENSE AND NUMERATION

1. Quantity Relationships

Grade 1	Grade 2
Overall Expectation	
- read, represent, compare, and order whole numbers to 50, and use concrete materials to investigate fractions and money amounts	- read, represent, compare, and order whole numbers to 100, and use concrete materials to represent fractions and money amounts to 100¢
Specific Expectations	
- represent, compare, and order whole numbers to 50, using a variety of tools	- represent, compare, and order whole numbers to 100, including money amounts to 100¢, using a variety of tools
- read and print in words whole numbers to ten, using meaningful contexts	- read and print in words whole numbers to twenty, using meaningful contexts
- demonstrate, using concrete materials, the concept of conservation of number	
- relate numbers to the anchors of 5 and 10	- determine, using concrete materials, the ten that is nearest to a given two-digit number, and justify the answer
- identify and describe various coins (i.e., penny, nickel, dime, quarter, \$1 coin, \$2 coin), using coin manipulatives or drawings, and state their value	- estimate, count, and represent (using the ¢ symbol) the value of a collection of coins with a maximum value of one dollar
- represent money amounts to 20¢, through investigation using coin manipulatives	
- estimate the number of objects in a set, and check by counting	
- compose and decompose numbers up to 20 in a variety of ways, using concrete materials	- compose and decompose two-digit numbers in a variety of ways, using concrete materials
- divide whole objects into parts and identify and describe, through investigation, equal-sized parts of the whole, using fractional names	
	- determine, through investigation using concrete materials, the relationship between the number of fractional parts of a whole and the size of the fractional parts
	- regroup fractional parts into wholes, using concrete materials
	- compare fractions using concrete materials, without using standard fractional notation

2. Counting

Grade 1		Grade 2	
Overall Expectation			
- demonstrate an understanding of magnitude by counting forward to 100 and backwards from 20		- demonstrate an understanding of magnitude by counting forward to 200 and backwards from 50, using multiples of various numbers as starting points	
Specific Expectations			
- demonstrate, using concrete materials, the concept of one-to-one correspondence between number and objects when counting			
- count forward by 1's, 2's, 5's, and 10's to 100, using a variety of tools and strategies		- count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10	
- count backwards by 1's from 20 and any number less than 20, with and without the use of concrete materials and number lines		- count backwards by 1's from 50 and any number less than 50, and count backwards by 10's from 100 and any number less than 100, using number lines and hundreds charts	
- count backwards from 20 by 2's and 5's, using a variety of tools			
		- locate whole numbers to 100 on a number line and on a partial number line	
- use ordinal numbers to thirty-first in meaningful contexts			

3. Operational Sense

Grade 1		Grade 2	
Overall Expectation			
- solve problems involving the addition and subtraction of single-digit whole numbers, using a variety of strategies		- solve problems involving the addition and subtraction of one- and two-digit whole numbers, using a variety of strategies, and investigate multiplication and division	
Specific Expectations			
- solve a variety of problems involving the addition and subtraction of whole numbers to 20, using concrete materials and drawings			
		- describe relationships between quantities by using whole-number addition and subtraction	
- solve problems involving the addition and subtraction of single-digit whole numbers, using a variety of mental strategies		- solve problems involving the addition and subtraction of whole numbers to 18, using a variety of mental strategies	
		- solve problems involving the addition and subtraction of two-digit numbers, with and without regrouping, using concrete materials, student-generated algorithms, and standard algorithms	
- add and subtract money amounts to 10¢, using coin manipulatives and drawings		– add and subtract money amounts to 100¢, using a variety of tools and strategies	
		- represent and explain, through investigation using concrete materials and drawings, multiplication as the combining of equal groups	
		- represent and explain, through investigation using concrete materials and drawings, division as the sharing of a quantity equally	

MEASUREMENT

1. Attributes, Units, and Measurement Sense

Grade 1	Grade 2
Overall Expectation	
- estimate, measure, and describe length, area, mass, capacity, time, and temperature, using non-standard units of the same size	- estimate, measure, and record length, perimeter, area, mass, capacity, time, and temperature, using non-standard units and standard units
Specific Expectations	
	- choose benchmarks – in this case, personal referents – for a centimetre and a metre to help them perform measurement tasks
- demonstrate an understanding of the use of non-standard units of the same size for measuring	
- estimate, measure (i.e., by placing nonstandard units repeatedly, without overlaps or gaps), and record lengths, heights, and distances	- estimate and measure length, height, and distance, using standard units (i.e., centimetre, metre) and non-standard units
- construct, using a variety of strategies, tools for measuring lengths, heights, and distances in non-standard units	- record and represent measurements of length, height, and distance in a variety of ways
	- select and justify the choice of a standard unit (i.e., centimetre or metre) or a nonstandard unit to measure length
	- estimate, measure, and record the distance around objects, using non-standard units
- estimate, measure (i.e., by minimizing overlaps and gaps), and describe area, through investigation using non-standard units	- estimate, measure, and record area, through investigation using a variety of non-standard units
- estimate, measure, and describe the capacity and/or mass of an object, through investigation using non-standard units	- estimate, measure, and record the capacity and/or mass of an object, using a variety of non-standard units
- read demonstration digital and analogue clocks, and use them to identify benchmark times and to tell and write time to the hour and half-hour in everyday settings	- tell and write time to the quarter-hour, using demonstration digital and analogue clocks
- estimate, measure, and describe the passage of time, through investigation using nonstandard units	- construct tools for measuring time intervals in non-standard units
- name the months of the year in order, and read the date on a calendar	
	- use a standard thermometer to determine whether temperature is rising or falling
- relate temperature to experiences of the seasons	- describe how changes in temperature affect everyday experiences

2. Measurement Relationships

Grade 1		Grade 2	
Overall Expectation			
- compare, describe, and order objects, using attributes measured in non-standard units		- compare, describe, and order objects, using attributes measured in non-standard units and standard units	
Specific Expectations			
- describe, through investigation using concrete materials, the relationship between the size of a unit and the number of units needed to measure length		- describe, through investigation, the relationship between the size of a unit of area and the number of units needed to cover a surface	
- compare and order objects by their linear measurements, using the same non-standard unit			
- compare two or three objects using measurable attributes (e.g., length, height, width, area, temperature, mass, capacity) and describe the objects using relative terms		- compare and order a collection of objects by mass and/or capacity, using non-standard units	
- use the metre as a benchmark for measuring length, and compare the metre with non-standard units			
		- determine, through investigation, the relationship between days and weeks and between months and years	

GEOMETRY AND SPATIAL SENSE

1. Geometric Properties

Grade 1		Grade 2	
Overall Expectation			
- identify common two-dimensional shapes and three-dimensional figures and sort and classify them by their attributes		- identify two-dimensional shapes and three-dimensional figures and sort and classify them by their geometric properties	
Specific Expectations			
		- distinguish between the attributes of an object that are geometric properties and the attributes that are not geometric properties, using a variety of tools	
- locate shapes in the environment that have symmetry, and describe the symmetry		- locate the line of symmetry in a two-dimensional shape	
- identify and describe common two-dimensional shapes and sort and classify them by their attributes, using concrete materials and pictorial representations		- identify and describe various polygons (i.e., triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons) and sort and classify them by their geometric properties (i.e., number of sides or number of vertices), using concrete materials and pictorial representations	
- identify and describe common three-dimensional figures and sort and classify them by their attributes, using concrete materials and pictorial representations		- identify and describe various three-dimensional figures (i.e., cubes, prisms, pyramids) and sort and classify them by their geometric properties (i.e., number and shape of faces), using concrete materials	
		- create models and skeletons of prisms and pyramids, using concrete, and describe their geometric properties (i.e., number and shape of faces, number of edges)	
- trace and identify the two-dimensional faces of three-dimensional figures, using concrete models			
- describe similarities and differences between an everyday object and a three-dimensional figure			

2. Geometric Relationships

Grade 1		Grade 2	
Overall Expectation			
- compose and decompose common two-dimensional shapes and three-dimensional figures		- compose and decompose two-dimensional shapes and three-dimensional figures	
Specific Expectations			
- cover outline puzzles with two-dimensional shapes		- cover an outline puzzle with two-dimensional shapes in more than one way	
- compose patterns, pictures, and designs, using common two-dimensional shapes		- compose and describe pictures, designs, and patterns by combining two-dimensional shapes	
- identify and describe shapes within other shapes		- compose and decompose two-dimensional shapes	
- build three-dimensional structures using concrete materials, and describe the two-dimensional shapes the structures contain		- build a structure using three-dimensional figures, and describe the two-dimensional shapes and three-dimensional figures in the structure	

3. Location and Movement

Grade 1		Grade 2	
Overall Expectation			
- describe the relative locations of objects using positional language		- describe and represent the relative locations of objects, and represent objects on a map	
Specific Expectations			
- describe the relative locations of objects or people using positional language		– describe the relative locations and the movements of objects on a map	
- describe the relative locations of objects on concrete maps created in the classroom		– draw simple maps of familiar settings, and describe the relative locations of objects on the maps	
- create symmetrical designs and pictures, using concrete materials and describe the relative locations of the parts		– create and describe symmetrical designs using a variety of tools	

PATTERNING & ALGEBRA

1. Patterns and Relationships

Grade 1		Grade 2	
Overall Expectation			
- identify, describe, extend, and create repeating patterns		- identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns	
Specific Expectations			
– create a repeating pattern involving one attribute		– create a repeating pattern by combining two attributes	
– identify and extend, through investigation, numeric repeating patterns		- demonstrate, through investigation, an understanding that a pattern results from repeating an operation or making a repeated change to an attribute	
– describe numeric repeating patterns in a hundreds chart			
– identify a rule for a repeating pattern			
- identify, describe, and extend, through investigation, geometric repeating patterns involving one attribute		– identify repeating, growing, and shrinking patterns found in real-life contexts	
- represent a given repeating pattern in a variety of ways		– represent a given growing or shrinking pattern in a variety of ways	
		- identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1’s, 2’s, 5’s, 10’s, and 25’s on a number line and on a hundreds chart	
		- identify, describe, and create, through investigation, growing patterns and shrinking patterns involving addition and subtraction, with and without the use of calculators (e.g., $3 + 1 = 4$, $3 + 2 = 5$, $3 + 3 = 6$, ...)	
		- create growing or shrinking patterns	

2. Expressions and Equality

Grade 1		Grade 2	
Overall Expectations			
- demonstrate an understanding of the concept of equality, using concrete materials and addition and subtraction to 10		- demonstrate an understanding of the concept of equality between pairs of expressions, using concrete materials, symbols, and addition and subtraction to 18	
Specific Expectations			
- create a set in which the number of objects is greater than, less than, or equal to the number of objects in a given set			
– demonstrate examples of equality, through investigation, using a “balance” model		-demonstrate an understanding of the concept of equality by partitioning whole numbers to 18 in a variety of ways, using concrete materials	
– determine, through investigation using a “balance” model and whole numbers to 10, the number of identical objects that must be added or subtracted to establish equality			
		- represent, through investigation with concrete materials and pictures, two number expressions that are equal, using the equal sign	
		- identify, through investigation, and use the commutative property of addition to facilitate computation with whole numbers	
		- identify, through investigation, the properties of zero in addition and subtraction (i.e., when you add zero to a number, the number does not change; when you subtract zero from a number, the number does not change)	
		- determine the missing number in equations involving addition and subtraction to 18, using a variety of tools and strategies	

DATA MANAGEMENT & PROBABILITY

1. Collection and Organization of Data

Grade 1	Grade 2
Overall Expectation	
- collect and organize categorical primary data and display the data using concrete graphs and pictographs, without regard to the order of labels on the horizontal axis	- collect and organize categorical or discrete primary data and display the data, using tally charts, concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers, with labels ordered appropriately along horizontal axes, as needed
Specific Expectations	
- demonstrate an ability to organize objects into categories by sorting and classifying objects using one attribute, and by describing informal sorting experiences	- demonstrate an ability to organize objects into categories, by sorting and classifying objects using two attributes simultaneously
- collect and organize primary data that is categorical (i.e., that can be organized into categories based on qualities such as colour or hobby), and display the data using one-to-one correspondence, prepared templates of concrete graphs and pictographs (with titles and labels), and a variety of recording methods	- collect and organize primary data that is categorical or discrete (i.e., that can be counted, such as the number of students absent), and display the data using one-to-one correspondence in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers, with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed
	- gather data to answer a question, using a simple survey with a limited number of responses

2. Data Relationships

Grade 1	Grade 2
Overall Expectation	
- read and describe primary data presented in concrete graphs and pictographs	- read and describe primary data presented in tally charts, concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers
Specific Expectations	
- read primary data presented in concrete graphs and pictographs, and describe the data using comparative language	- read primary data presented in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers, and describe the data using mathematical language
- pose and answer questions about collected data	- pose and answer questions about class generated data in concrete graphs, pictographs, line plots, simple bar graphs, and tally charts
	- demonstrate an understanding of data displayed in a graph, by comparing different parts of the data and by making statements about the data as a whole
	- distinguish between numbers that represent data values and numbers that represent the frequency of an event

3. Probability

Grade 1		Grade 2	
Overall Expectation			
- describe the likelihood that everyday events will happen		- describe probability in everyday situations and simple games	
Specific Expectations			
– describe the likelihood that everyday events will occur, using mathematical language (i.e., impossible, unlikely, less likely, more likely, certain)		- describe probability as a measure of the likelihood that an event will occur, using mathematical language (i.e., impossible, unlikely, less likely, equally likely, more likely, certain)	
		- describe the probability that an event will occur through investigation with simple games and probability experiments and using mathematical language	